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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,129	09/26/2000	Vladimir R. Pisarsky	US000262	5658
7590	12/18/2003			EXAMINER SHARON, AYAL I
Michael E Marion Corporate Patent Counsel U S Philips Corporation 580 White Plains Road Tarrytown, NY 10591			ART UNIT 2123	PAPER NUMBER <i>✓</i>
DATE MAILED: 12/18/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/670,129	PISARSKY, VLADIMIR R.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ayal I Sharon	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### **Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 26 September 2000.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-9 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-9 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

13)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a)  The translation of the foreign language provisional application has been received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_ .  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) 5)  Notice of Informal Patent Application (PTO-152)  
3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 . 6)  Other: \_\_\_\_ .

## DETAILED ACTION

### *Introduction*

1. Claims 1-9 of U.S. Application 09/670,129 filed on 09/26/2000 are presented for examination.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. The prior art used for these rejections is as follows:
4. Zager et al., U.S. Patent 6,393,386. (Henceforth referred to as “Zager”).

5. The claim rejections are hereby summarized for Applicant's convenience. The detailed rejections follow.

**6. Claims 1, 3, 5, 7, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Zager (U.S. Patent 6,393,386).**

7. In regards to Claim 1, Zager teaches the following limitations:

1. A monitoring system comprising:

- a primary system with multiple devices; and  
(Zager, especially: col. 5, line 14 to col. 6, line 7)
- a simulator for simulating behavior of the primary system; wherein:  
(Zager, especially: col. 5, line 14 to col. 6, line 7)
- the monitoring system evaluates a result supplied by the primary system with respect to an outcome calculated by the simulator in order to monitor the primary system.  
(Zager, especially: col.11, lines 16-46. "Faults, States, Events, Anomalies and Performance Degradations")

8. In regards to Claim 3, Zager teaches the following limitations:

3. The system of claim 1, wherein:

- each respective device has a respective computational resource,  
(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)
- each respective one of the devices performs a respective primary task using the respective resource; and  
(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)
- depending on the respective primary task, each respective device performs a respective secondary task for reducing availability of the respective computational resource.  
(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)

9. In regards to Claim 5, Zager teaches the following limitations:

5. A method of enabling to protect a primary system that has multiple devices, the method comprising:

- simulating a behavior of the primary system; and  
(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)

- evaluating a result supplied by the primary system with respect to an outcome calculated by the simulator.  
(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)

10. In regards to Claim 7, Zager teaches the following limitations:

7. The method of claim 5, wherein:
  - each respective device has a respective computational resource,  
(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)
  - each respective one of the devices performs a respective primary task using the respective resource; and  
(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)
  - the method comprises enabling each respective device to perform a respective secondary task, depending on the respective primary task, for reducing availability of the respective computational resource.  
(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)

11. In regards to Claim 9, Zager teaches the following limitations:

9. A device having a computational resource for performing a primary task, and comprising an FSM, independent of performing the primary task, for enabling to monitor an integrity of the resource.  
(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)

### ***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The prior art used for these rejections is as follows:

14. Zager et al., U.S. Patent 6,393,386. (Henceforth referred to as "Zager").
15. Yemini et al., U.S. Patent 5,661,668. (Henceforth referred to as "Yemini").
16. The claim rejections are hereby summarized for Applicant's convenience. The detailed rejections follow.

**17. Claim 2, 4, 6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zager in view of Yemini (U.S. Patent 5,661,668).**

18. In regards to Claim 2, Zager teaches the following limitations:

2. The system of claim 1, wherein:
  - each respective one of the devices comprises a respective finite state machine; (Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)

However, Zager does not expressly teach the following limitations:

- the respective state machine calculates per time step a value of a quantity according to a respective mathematical function,
- the respective mathematical function has as arguments:
  - the value of the quantity calculated at a preceding time step by at least another one of the state machines;
  - a respective history of values assumed by the quantity calculated by the respective state machine;
  - a respective control code determined by content present in a memory of the respective device at the time step;
- the respective mathematical function is such that the quantity assumes a stochastic behavior.

Yemini, on the other hand, does expressly teach these limitations. (See especially "Expanding Codebooks to Include Probabilistic and Temporal Codes", col.17, line 32 to col.19, line 17; and "Generation of Causality Matrices", col.24, line 30 to col.26, line 63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Zager with those Yemini, because "Simulation techniques, however, do not generally address the problem of

correlating events and producing a diagnosis of underlying problems." (Yemini: col.7, lines 35-40).

19. In regards to Claim 4, Zager teaches the following limitations:

4. The system of claim 2, wherein

- each respective device has a respective computational resource;  
(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)

- each respective one of the devices performs a respective primary task using the respective resource;

(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)

- depending on usage of the resource for the respective primary task., each respective device performs a respective secondary task for reducing availability of the respective computational resource; and

(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)

However, Zager does not expressly teach the following limitations:

- the respective secondary task comprises calculating the quantity using adapting a length of the respective history.

Yemini, on the other hand, does expressly teach these limitations. (See especially "Expanding Codebooks to Include Probabilistic and Temporal Codes", col.17, line 32 to col.19, line 17; and "Generation of Causality Matrices", col.24, line 30 to col.26, line 63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Zager with those Yemini, because "Simulation techniques, however, do not generally address the problem of correlating events and producing a diagnosis of underlying problems." (Yemini: col.7, lines 35-40).

20. In regards to Claim 6, Zager teaches the following limitations:

6. The method of claim 5, wherein:

- each respective one of the devices comprises a respective finite state machine;  
(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)

However, Zager does not expressly teach the following limitations:

- the respective state machine calculates per time step a value of a quantity according to a respective mathematical function,
- the respective mathematical function has as arguments:
  - the value of the quantity calculated at a preceding time step by at least another one of the state machines;
  - a respective history of values assumed by the quantity calculated by the respective state machine; and
  - a respective control code determined by content present in a memory of the respective device at the time step; and
- the respective mathematical function is such that the quantity assumes a stochastic behavior.

Yemini, on the other hand, does expressly teach these limitations. (See especially "Expanding Codebooks to Include Probabilistic and Temporal Codes", col.17, line 32 to col.19, line 17; and "Generation of Causality Matrices", col.24, line 30 to col.26, line 63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Zager with those Yemini, because "Simulation techniques, however, do not generally address the problem of correlating events and producing a diagnosis of underlying problems." (Yemini: col.7, lines 35-40).

21. In regards to Claim 8, Zager teaches the following limitations:

8. The method of claim 6, wherein

- each respective device has a respective computational resource;  
(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)
- each respective one of the devices performs a respective primary task using the respective resource;

(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)

- the method comprises enabling each respective device to perform a respective secondary task, depending on the respective primary task, for reducing availability of the respective computational resource, and

(Zager, especially: col. 5, line 14 to col. 6, line 7; col.8, line 51 to col.9, line 53; and col.11, lines 16-46)

However, Zager does not expressly teach the following limitations:

- the respective secondary task comprises calculating the quantity using adapting a length of the respective history.

Yemini, on the other hand, does expressly teach these limitations. (See especially "Expanding Codebooks to Include Probabilistic and Temporal Codes", col.17, line 32 to col.19, line 17; and "Generation of Causality Matrices", col.24, line 30 to col.26, line 63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Zager with those of Yemini, because "Simulation techniques, however, do not generally address the problem of correlating events and producing a diagnosis of underlying problems." (Yemini: col.7, lines 35-40).

### ***Conclusion***

22. The following prior art, made of record and not relied upon, is considered pertinent to applicant's disclosure.
23. Hershey et al., U.S. Patent 5,414,833.
24. Yemini et al., U.S. Patent 5,528,516.
25. Yemini et al., U.S. Patent 6,249,755.

***Correspondence Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ayal I. Sharon whose telephone number is (703) 306-0297. The examiner can normally be reached on Monday through Thursday, and the first Friday of a biweek, 8:30 am – 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on (703) 305-9704. Any response to this office action should be mailed to:

Director of Patents and Trademarks  
Washington, DC 20231

Hand-delivered responses should be brought to the following office:

4<sup>th</sup> floor receptionist's office  
Crystal Park 2  
2121 Crystal Drive  
Arlington, VA

The fax phone numbers for the organization where this application or proceeding is assigned are:

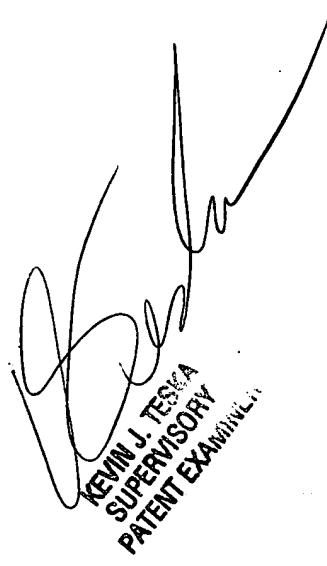
All communications: (703) 872-9306

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is: (703) 305-3900.

Ayal I. Sharon

Art Unit 2123

December 10, 2003



KEVIN J. TESTA  
SUPERVISORY  
PATENT EXAMINER